

an actuator coupled to the housing, the actuator configured to output a force associated with the sensor signals; and

a first flex joint and a second flex joint each being coupled to the housing and the actuator, the first flex joint and the second flex joint configured to transfer the force output from the actuator to the housing to produce a haptic feedback.

2. (Once Amended) The apparatus of claim 1, wherein the force is a rotary force.

3. (Once Amended) The apparatus of claim 2, wherein the first flex joint is coupled to a rotating shaft of the actuator, and the second flex joint is coupled to a portion of the actuator excluding the rotating shaft.

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Cont 4. (Once Amended) The apparatus of claim 1, wherein the force output by the actuator is associated with an approximately linear motion with respect to the housing, the haptic feedback having a linear direction associated with the linear motion of the actuator.

5. (Once Amended) The apparatus of claim 1, wherein the housing includes a substantially flat base configured to be in contact with a support surface, the movement of the actuator being substantially perpendicular to the substantially flat base of the housing.

6. (Once Amended) The apparatus of claim 1, wherein the housing includes a contact member configured to be contacted by a user, the contact member being coupled to the actuator and configured to transmit the inertial force to the user.

7. (Once Amended) The apparatus of claim 6, wherein the contact member includes at least a portion of a top surface of the housing.

A2 9. (Once Amended) The apparatus of claim 1, wherein the first flex joint includes a rotating member coupled to the housing by the first flex joint.

10. (Once Amended) The apparatus of claim 9, wherein the first flex joint includes a collar coupled to the actuator, the first flex joint couples the collar to the housing.

11. (Once Amended) The apparatus of claim 1, wherein the actuator includes a rotating shaft having a range of motion, the first flex joint includes at least one stop disposed within the range of motion of rotating shaft.

12. (Once Amended) The apparatus of claim 1, wherein the actuator is configured to move with a bi-directional action, the force output from the actuator being associated with the bi-directional motion.

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13. (Once Amended) The apparatus of claim 1, wherein the housing is included within a handheld interface device.

14. (Once Amended) The apparatus of claim 1, wherein the housing is included within a mouse.

15. (Once Amended) The apparatus of claim 14, wherein the haptic feedback is configured to be associated with a graphical representation displayed by a host computer.

16. (Once Amended) The apparatus of claim 1, further comprising a microprocessor coupled to the sensor and to the actuator, the microprocessor configured to receive host commands from a host computer and sensor signals from the sensor, output force signals to the actuator associated with the haptic feedback.

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18. (Once Amended) An apparatus, comprising:  
a housing;  
a sensor coupled to the housing, the sensor configured to detect a manipulation of at least a portion of the housing and to output sensor signals associated with the manipulation of the portion of the housing; and

an actuator assembly coupled to the housing, the actuator assembly including an actuator, a first flex joint and a second flex joint each being coupled to the actuator, the actuator being configured to output an inertial force to the housing, the first flex joint and the second flex joint being configured to allow a movement of the actuator with respect to the housing.

19. (Once Amended) The apparatus of claim 18, wherein the inertial force is a rotary force, the first flex joint is coupled to a rotating shaft of the actuator, the second flex joint is coupled to a remaining portion of the actuator.

20. (Once Amended) The apparatus of claim 18, wherein the movement of the actuator is approximately linear with respect to the housing, the inertial force output by the actuator is approximately linear.

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21. (Once Amended) The apparatus of claim 18, wherein the first flex joint includes a rotating member coupled to the housing.

22. (Once Amended) The apparatus of claim 21, wherein the second flex joint includes a collar coupled to the actuator.

23. (Once Amended) An actuator assembly comprising:  
an actuator, the actuator being configured to output haptic feedback; and  
a flexure mechanism coupling the actuator to a housing, the flexure mechanism being configured to allow a movement of the actuator with respect to the housing, the flexure mechanism having a first portion and a second portion each being coupled to the actuator and including at least one flex joint.

24. (Once Amended) The actuator assembly of claim 23, wherein the haptic feedback is associated with a rotary force.

25. (Once Amended) The actuator assembly of claim 24, wherein the first portion of the flexure mechanism is coupled to a rotating shaft the actuator, the second portion of the flexure mechanism is coupled to the remaining portion of the actuator.

26. (Once Amended) The actuator assembly of claim 23, wherein the movement of the actuator is approximately linear with respect to the housing, the inertial force output by the actuator is linear.

27. (Once Amended) The actuator assembly of claim 23, wherein the first portion of the flexure mechanism includes a rotating member coupled to the housing by one of the at least one flex joints.

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28. (Once Amended) The actuator assembly of claim 23, wherein the first portion of the flexure mechanism includes a collar coupled to the actuator and a flex joint coupling the collar to the housing.

29. (Once Amended) The actuator assembly of claim 24, wherein the actuator is configured to move with a bi-directional motion, the force output from the actuator being associated with the bi-directional motion to produce pulse and vibration haptic feedback.

30. (Once Amended) A method comprising:  
detecting a manipulation of a device;  
sending sensor signals associated with the manipulation; and  
outputting an inertial force by a movement of an actuator with respect to a housing of the device, a mechanism including at least two separate portions each being coupled to a different point on the actuator and the housing.

31. (Once Amended) The method of claim 30, wherein the inertial force output by the actuator is a rotary force.